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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,915	04/06/2001	Noriko Itani	1075.1162	6536

21171 7590 07/16/2007
STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
STORK, KYLE R	
ART UNIT	PAPER NUMBER
2178	

MAIL DATE	DELIVERY MODE
07/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/826,915	ITANI, NORIKO	
	Examiner	Art Unit	
	Kyle R. Stork	2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This non-final office action is in response to the Request for Continued Examination and the amendment filed 16 April 2007.

2. Claims 1-39 are pending. Claim 39 is newly added. Claims 1, 3, 4, 11-19, 22-30 and 39 are independent claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-6, 11-30 remain and claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hind et al. (US 6635088, filed 20 November 1998, hereafter Hind), and further in view of Maruyama et al. (US 7043686, filed 26 September 2000, hereafter Maruyama).

As per independent claim 1, Hind discloses an apparatus for compressing a plurality of structured documents having a common data structure, the apparatus comprising:

- A tag list obtaining unit for obtaining a single tag list, common to the plurality of structured documents, that lists start markup tags and end markup tags in the order that they appear in the structured documents (column 4, lines 19-41: Here,

the tag list is obtained by storing the correspondence between the substituted tags and the unique short tags substituted for the tags; column 13, lines 20-48)

- A structured document compressing unit for, by replacing each of the start markup tags and end markup tags in individual said plural structured documents that correspond to the tag list in the plural structured documents with a single predetermined delimiter code, generating a plurality of compressed documents comprising element contents and predetermined delimiter codes (column 4, lines 19-41: Here, the unique short tags are substituted for the plurality of start and end markup tags)

Hind fails to specifically disclose outputting the single tag list, which is obtained by the tag list obtaining unit, and also the plurality of compressed documents, which are generated individually from the plural structured documents by the structured document compressing unit, in correspondence with one another. Hind further discloses the ability to display items via a computer terminal (column 5, lines 45-64), and displaying the compressed files, causing the files to be decompressed via the single tag list (column 13, lines 49-65). However, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined capability to display files with Hind's teachings of compression, since it would have allowed a user to easily view compressed text files on handheld devices with a small memory store (Hind: column 3, lines 1-23).

Further, Hind fails to specifically disclose extracting a common data structure. However, Maruyama discloses extracting a data structure (Figures 5-6). It would have

been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Maruyama with Hind, since it would have allowed a user to compress data having a common grammar (Maruyama: column 2, lines 5-18).

As per dependent claim 2, Hind discloses wherein the structured document compressing unit further comprises:

- A tag detecting unit for detecting each start markup tag and end markup tag in individual structured documents (column 4, lines 19-41)
- A tag replacement unit for replacing each start markup tag and end markup tag, detected by the tag detecting unit, with the predetermined delimiter code (column 4, lines 19-41)

As per independent claim 3, Hind discloses an apparatus for compressing a structured document, the apparatus comprising:

- A tag detecting unit for detecting each start markup tag and end markup tag in individual structured document (column 4, lines 19-41)
- A tag replacement unit for replacing the start markup tags and end markup tags detected by the tag detection unit, with a predetermined delimiter code, to translate the structured document into a compressed document consisted of element contents and predetermined delimiter codes (column 4, lines 19-41)

As per dependent claim 5, Hind discloses a compressing apparatus further comprising:

- An attribute-bearing-tag discriminating unit for discriminating whether or not the markup tag detected by the tag detecting unit is an attribute-bearing markup tag, which has an attribute value (column 13, lines 20-48)
- An attribute-bearing-tag replacement unit for replacing the attribute-bearing markup tag, discriminated by the attribute-bearing-tag discriminating unit, with a set of the attribute value and a single predetermined delimiter code (column 13, lines 20-48)

Hind fails to specifically disclose extracting a common data structure. However, Maruyama discloses extracting a data structure (Figures 5-6). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Maruyama with Hind, since it would have allowed a user to compress data having a common grammar (Maruyama: column 2, lines 5-18).

As per independent claim 4, Hind discloses an apparatus for compressing a structured document, the apparatus comprising:

- A subdocument extracting unit for extracting a subdocument, which is a region sandwiched between a start markup tag and an end markup tag that have a predetermined element name, from the structured document (Figures 3A-3B: Here, the subdocument "1234 Cornwallis Drive, Research Triangle Park, NC 27709" is extracted from the document)

In another embodiment, Hind discloses the limitations substantially similar to those in claim 3. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Hind's teaching of extracting

subdocuments to compress documents with Hind's teachings of claim 3, since it would have allowed a user to easily view compressed text files on handheld devices with a small memory store (Hind: column 3, lines 1-23).

Further, Hind fails to specifically disclose extracting a common data structure. However, Maruyama discloses extracting a data structure (Figures 5-6). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Maruyama with Hind, since it would have allowed a user to compress data having a common grammar (Maruyama: column 2, lines 5-18).

As per dependent claim 5, Hind and Maruyama disclose the limitations similar to those in claim 3. Hind further discloses a compressing apparatus further comprising:

- An attribute-bearing-tag discriminating unit discriminating whether or not the markup tag detected by the tag detecting unit is an attribute-bearing markup tag, which has an attribute value (column 13, lines 20-48)
- An attribute-bearing-tag replacement unit for replacing the attribute-bearing markup tag, discriminated by the attribute-bearing-tag discriminating unit, with a set of the attribute value and a single predetermined delimiter code (column 13, lines 20-48)

As per dependent claim 6, the applicant discloses the limitations substantially similar to those in claim 5. Claim 6 is similarly rejected.

As per independent claims 11 and 14, the applicant discloses the limitations substantially similar to those in claim 1. Claims 11 and 14 are similarly rejected.

As per independent claims 12 and 15, the applicant discloses the limitations substantially similar to those in claim 3. Claims 12 and 15 are similarly rejected.

As per independent claims 13 and 16, the applicant discloses the limitations substantially similar to those in claim 4. Claims 13 and 16 are similarly rejected.

As per independent claim 17, Hind discloses an apparatus for decompressing a plurality of compressed documents, which are generated by replacing each of start markup tags and end markup tags in a plurality of original structured documents having a common data structure within a single predetermined delimiter code and which comprise element contents and predetermined delimiter codes, on the basis of a tag list in which start markup tags and end markup tags in the plural original structured documents are listed in the order of appearance, the apparatus comprising:

- A duplicating unit for expanding/duplicating a data structure corresponding to the tag list, as a duplicated data structure, on a memory (column 4, lines 19-41; column 13, lines 20-65)
- A writing unit for writing element contents of each of the compressed documents into predetermined regions of the duplicated data structure extended on the memory, in accordance with a correspondence between a position of a start markup tag or an end markup tag in the duplicated data structure and a position of the predetermined delimiter code in each of the compressed documents (column 4, lines 19-41; column 13, lines 20-65)

Hind fails to specifically disclose extracting a common data structure. However, Maruyama discloses extracting a data structure (Figures 5-6). It would have been

obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Maruyama with Hind, since it would have allowed a user to compress data having a common grammar (Maruyama: column 2, lines 5-18).

As per independent claim 18, Hind discloses an apparatus for decompressing a compressed document, which are generated by replacing each of start markup tags and end markup tags in a plurality of original structured documents having a common data structure within a single predetermined delimiter code and which comprise element contents and predetermined delimiter codes, on the basis of a tag list in which start markup tags and end markup tags in the plural original structured documents are listed in the order of appearance, the apparatus comprising:

- A tag list holding unit for holding a tag list in which markup tags in the structured document are listed in the order of appearance (column 4, lines 19-41)
- A delimiter code detecting unit for detecting each of the predetermined delimiter codes in the compressed document (column 4, lines 19-41; column 13, lines 20-65)
- A tag restoring unit for replacing the predetermined delimiter code, detected by the delimiter code detecting unit, with a corresponding markup tag on the tag list, in accordance with a correspondence between a position of the markup tag in the tag list and a position of the predetermined delimiter code detected by the delimiter code detecting unit (column 4, lines 19-41; column 13, lines 20-65)

Hind fails to specifically disclose extracting a common data structure. However, Maruyama discloses extracting a data structure (Figures 5-6). It would have been

obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Maruyama with Hind, since it would have allowed a user to compress data having a common grammar (Maruyama: column 2, lines 5-18).

As per independent claim 19, Hind discloses an apparatus for decompressing a compressed document, which are generated by replacing each of start markup tags and end markup tags in a plurality of original structured documents having a common data structure within a single predetermined delimiter code and which comprise element contents and predetermined delimiter codes, on the basis of a tag list in which start markup tags and end markup tags in the plural original structured documents are listed in the order of appearance, the apparatus comprising:

- A tag list holding unit for holding a tag list in which markup tags in the structured document are listed in the order of appearance (column 4, lines 19-41)
- A subdocument extracting unit for extracting the subdocument from the compressed document (Figures 3A-3B)
- A delimiter code detecting unit for detecting each of the predetermined delimiter codes in the compressed document (column 4, lines 19-41; column 13, lines 20-65)
- A tag restoring unit for replacing the predetermined delimiter code, detected by the delimiter code detecting unit, with a corresponding markup tag on the tag list, in accordance with a correspondence between a position of the markup tag in the tag list and a position of the predetermined delimiter code detected by the delimiter code detecting unit (column 4, lines 19-41; column 13, lines 20-65)

Hind fails to specifically disclose extracting a common data structure. However, Maruyama discloses extracting a data structure (Figures 5-6). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Maruyama with Hind, since it would have allowed a user to compress data having a common grammar (Maruyama: column 2, lines 5-18).

As per dependent claim 20, the applicant discloses the limitations of the claim directed to an apparatus that operates in reverse of the apparatus of claim 5, and is rejected under similar rationale in the manner of claim 17.

As per dependent claim 21, the applicant discloses the limitations substantially similar to those in claim 20. Claim 21 is similarly rejected.

As per independent claims 22 and 25, the applicant discloses the limitations substantially similar to those in claim 17. Claims 22 and 25 are similarly rejected.

As per independent claims 23 and 26, the applicant discloses the limitations substantially similar to those in claim 18. Claims 23 and 28 are similarly rejected.

As per independent claims 24 and 27, the applicant discloses the limitations substantially similar to those in claim 19. Claims 24 and 27 are similarly rejected.

As per independent claim 28, the applicant discloses the limitations substantially similar to those in claims 1 and 17. Claim 28 is similarly rejected.

As per independent claim 29, the applicant discloses the limitations substantially similar to those in claims 3 and 18. Claim 29 is similarly rejected.

As per independent claim 30, the applicant discloses the limitations substantially similar to those in claims 4 and 19. Claim 30 is similarly rejected.

As per independent claim 39, the applicant discloses the limitations contained within claim 1. Claim 39 is similarly rejected.

5. Claims 7-10 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Hind and Maruyama and further in view of Motoyama et al. (US 5504891, filed 13 June 1994, hereafter Motoyama) and further in view of Goodman (US 5999929, filed 29 September 1997).

As per dependent claim 7, Hind discloses the limitations similar to those in claim 3, and the same rejection is incorporated herein. Hind fails to specifically disclose an apparatus further comprising:

- A tag list holding unit for holding a tag list in which tags are listed in a predetermined order for definition of a predetermined data structured
- A tag rearranging unit for rearranging tags in said structured document before compression, in the predetermined order according to the tag list held in said tag list holding unit

However, Motoyama discloses in col. 18, lines 10-35 the use of a list to hold and rearrange a list of tags. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a list to hold and rearrange tags because this would have permitted a user to have greater flexibility in the storage order of tags.

Hind furtherfails to disclose an omitted-tag supplementing unit for supplementing a tag omitted in said structured document according to said tag list held in said tag list holding unit. However, Goodman discloses in col. 4, lines 25-60 facilities for providing

missing tags in structured documents in order to allow successful display in Web browsers. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide Goodman's feature of supplementing missing tags since it would have allowed a user to successful validate pages for display in Web browsers.

As per dependent claims 8-10, the applicant discloses the limitations substantially similar to those in claim 7. Claims 8-10 are similarly rejected.

6. Claims 31-32 and 35-36 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Hind and Maruyama and further in view of Morel et al. (US 5572731, filed 29 June 1993, hereafter Morel).

As per dependent claim 31, Hind discloses the limitations similar to those in claim 29, and the same rejection is incorporated herein. Hind further disclose a tag-list-group holding unit for holding a plurality of tag lists corresponding to data structures of structured documents that can possibly be processed (column 4, lines 19-41; column 13, line 20-65); however, Hind fails to specifically disclose a tag list managing unit for managing correspondence between compressed document generated by said structured document compressing apparatus and said tag lists held in said tag-list-group-holding units. However, Morel, in the Abstract, lines 1-10, describes a sequencing unit that manages links between objects in order to follow sequences of semantic objects. It would have been obvious to one of ordinary skill in the art at the time of the invention to manage links as per Morel in the context of Koontz and Fisher

between objects in order to follow sequences of semantic objects (see Morel, Abstract, line 8).

As per dependent claim 32, the applicant discloses the limitations substantially similar to those in claim 31. Claim 32 is similarly rejected.

As per dependent claim 35, Hind discloses the limitations similar to those in claim 31, and the same rejection is incorporated herein. However, Hind fails to specifically disclose that said tag-list-group holding unit is provided on a management server, which is communicably connected with said structured document compressing apparatus and with said structured document decompressing apparatus via a network, and a tag list necessary for the processing is read from said tag-list-group holding unit on said management server. However, it was notoriously well known in the art at the time of the invention that data used for processing can be stored on a server to permit remote access of data, which is centrally stored for greater reliability and security. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a server to store the key compression data because it would have permitted remote access of data that is centrally stored for greater reliability and security.

As per dependent claim 36, the applicant discloses the limitations substantially similar to those in claim 35. Claim 36 is similarly rejected.

7. Claims 33-34 and 37-38 remain rejected under 35 U.S.C. 103(a) as being unpatentable Hind and Maruyama and further in view of Tuniman et al. (US 6507874, filed 30 June 1998, hereafter Tuniman).

As per dependent claim 33, Hind discloses the limitations similar to those in claim 29, and the same rejection is incorporated herein. Hind further discloses a tag-list-group holding unit for holding a plurality of tag lists corresponding to data structures of structured documents that can possibly be processed (column 4, lines 19-41; column 13, lines 20-65), and said structured document decompressing apparatus decompressing said compressed document using said tag list that corresponds to said tag-list identification information obtained by said tag-list identification information obtaining unit (column 4, lines 19-41; column 13, lines 20-65); however, Hind fails to specifically disclose a tag-list identification information adding unit for adding tag-list identification information, which identifies a tag list that corresponds to a compressed document generated by said structured document compressing apparatus, to said compressed document; and a tag-list identification information obtaining unit for obtaining said tag-list identification information added to said compressed document. However, Tuniman, in col. 12, lines 35-60, describes the use and management of identification information in conjunction with lists to allow successful routing. It would have been obvious to one of ordinary skill in the art at the time of the invention to use add and obtain identification information in the manner of Tuniman in order to allow successful routing of the list information.

As per dependent claim 34, the applicant discloses the limitations substantially similar to those in claim 33. Claim 34 is similarly rejected.

As per dependent claims 37-38, the applicant discloses the limitations substantially similar to those in claim 35. Claims 37-38 are similarly rejected.

Response to Arguments

8. Applicant's arguments filed 16 April 2007 have been fully considered but they are not persuasive.

The applicant argues that Hind does not disclose obtaining only one tag list, instead stating that Hind discloses obtaining both "short tags" and "located tags (page 19)." While Hind does disclose the use of short tags and located tags (column 4, lines 19-41), only the located tags correspond to the applicant's claim language of "obtaining only one tag list (claim 1, line 3)." The short tags are used in the compression step of the applicant's claim (claim 1, lines 7-11).

The applicant further argues that Hind fails to disclose replacing all tags in the plural structured documents with a single predetermined delimiter code (pages 19-20). However, the examiner respectfully disagrees. Hind discloses use of short tags (column 4, lines 25-31). These short tags are used to convert from located tags into a common tag set (column 4, lines 25-31). Therefore, all tags in the plurality of structured documents are each replaced with a single predetermined delimiter code (column 4, lines 19-41).

The applicant's remarks with respect to the remaining independent claims appear to rely upon one of the two arguments above. Therefore, these arguments are similarly not persuasive.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle R. Stork whose telephone number is (571) 272-4130. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kyle R Stork
Patent Examiner
Art Unit 2178

krs

STEPHEN HONG
SUPERVISORY PATENT EXAMINER